DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
690 Walnut Ave.St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4
Cty: SF/Ala Rte: 80 PM: 13.2/13.9
File #: 69.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-015114
Date Inspected: 08-Jun-2010

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island

OSM Arrival Time: 1900
OSM Departure Time: 700
Location: Shanghai, China

CWI Name: See below
Inspected CWI report: ☐ Yes ☑ No ☐ N/A
Electrode to specification: ☑ Yes ☐ No ☐ N/A
Qualified Welders: ☑ Yes ☐ No ☐ N/A
Approved Drawings: ☑ Yes ☐ No ☐ N/A

CWI Present: ☑ Yes ☐ No
Rod Oven in Use: ☑ Yes ☐ No ☐ N/A
Weld Procedures Followed: ☑ Yes ☐ No ☐ N/A
Verified Joint Fit-up: ☑ Yes ☐ No ☐ N/A
Approved WPS: ☑ Yes ☐ No ☐ N/A
Delayed / Cancelled: ☐ Yes ☑ No ☐ N/A

Bridge No: 34-0006
Component: Tower and OBG Components

Summary of Items Observed:

On this date Caltrans OSM Quality Assurance Inspector (QA Inspector) George Goulet was present during the times noted above for observations relative to the work being performed.

Bay 10
This QA Inspector randomly observed no welding related work being performed in Bay 10.

Bay 11
This QA Inspector randomly observed no welding related work being performed in Bay 11.

Heavy Dock
This QA Inspector observed no welding related work was being performed on the heavy dock. North and west towers, lifts 1 were laying horizontally at the foot of the dock and ZPMC workers were continuing to load lap plates inside.

OBG Trial Assembly Area
This QA Inspector randomly observed the following work in progress in the Trial Assembly Area:

FCAW repair welding of weld joint SEG049A-013 located inside PCMK OBG 9AW, bottom plate to side plate at south (crossbeam) side, panel points 71~72. Welders ere identified as 220067, 220063. QC was identified as ZPMC CWI Liu Hua Jie (QC1). Assisting QC1 at this location and appearing to be monitoring the welding and recording data was ZPMC QC Tang Ya Jun, who was not a CWI. Welding variables recorded by QC1's assistant

appeared to comply with WPS-345-FCAW-1G(1F)-repair as listed on a document presented to this QA Inspector by ZPMC QC Tang Ya Jun, ZPMC Weld Repair Report B-WR13499, drawing number SEG 47/49.

SMAW repair welding of weld joint SSD22-PP69.5-127 located inside PCMK OBG 8CW, crossbeam stiffener. Welder was identified as 044772. QC was identified as QC1. Assisting QC1 at this location and appearing to be monitoring the welding and recording data was ZPMC QC Tang Ya Jun, who was not a CWI. Welding variables recorded by QC1's assistant appeared to comply with WPS-345-SMAW-3G(3F)-repair. ZPMC QC Tang Ya Jun presented a document to this inspector marked as ZPMC repair order B-WR13262 displaying the item as crossbeam stiffener and drawing number X3S/X8E.

Bay 9 – PMT
This QA Inspector monitored OBG Production Monitoring Test (PMT) #3138 for deck panels DP3138(PL3334A/B)-001 and DP3136(PL3332A/B)-001 at Gantry #2. Prior to the start of the PMT, this QA Inspector observed the root openings to be within the 0.0 to 0.5mm tolerance. The magnetic particle test (MT) of the tack welds was noted on the test panel as having been performed by ZPMC MT Technician Wang Wei on 6/6/10. The visual inspection of tack welds and root gaps was performed by ABF Representative Wang Wan Cheng (PABF), ZPMC CWI Chen Shigang (PQC), and this QA Inspector. The tack welds and root gaps appeared to be within prescribed tolerances. This QA Inspector observed that the deck plate of the test panel was 20mm thick and the deck plate of the production panels were 20mm thick. The ambient temperature was approximately 22°C. Flame preheat was applied to the specimens to above 60°C immediately prior to start of the gas metal arc welding (GMAW) pass. The interpass temperature was checked between processes and observed to be above 60°C. The start time for welding of the 3–12mm x 20mm specimens was approximately 0013 hours on 6/9/10 and the finish time was approximately 0050 hours. This QA Inspector randomly verified and documented the welding amperage, voltage, and travel speed during the gas metal arc welding (GMAW) and submerged arc welding (SAW) processes, and performed a visual inspection welds 1 thru 6 at the completion of both the GMAW root pass and SAW cover pass. The welding variables recorded by PQC appeared to comply with WPS-B-T-2342-U1-(U-rib)-5. The welds were visually inspected by PABF, PQC and this QA Inspector. PQC and PABF informed this QA Inspector that welds #3 and #4 appeared to display surface porosity not in conformance with AWS D1.5 and not in conformance with contract documents and were not acceptable. PQC and PABF rejected the test and this QA Inspector concurred. PQC informed this QA Inspector that ZPMC chose not to continue with the PMT during this night shift.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.

Summary of Conversations: No significant conversations.

Summary of Conversations:
As noted above.
Comments
This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang, 150-0042-2372, who represents the Office of Structural Materials for your project.

WELDING INSPECTION REPORT

(Continued Page 3 of 3)

Inspected By:	Goulet,George	Quality Assurance Inspector
Reviewed By:	Dawson,Paul	QA Reviewer